WHAT IS CLAIMED:

1. A method for the synthesis of nucleic acids, comprising incubating a polymerase, a nuleic acid that can serve as a template for the polymerase, NTPs and Mn^{2+} under conditions that permit the synthesis of a nucleic acid strand, wherein the conditions comprise a molar ratio of Mn^{2+}/NTP of not more than 0.7.
2. The method according to claim 1, wherein the polymerase is an RNA polymerase.
3. The method according to claim 1, wherein the polymerase is a DNA dependant RNA polymerase that needs a DNA template having a promoter to synthesize RNA.
4. The method according to claim 1, wherein the molar ratio of Mn^{2+}/NTP is between 0.2 and 0.6.
5. The method according to claim 1, wherein the molar ratio of Mn^{2+}/NTP is between 0.3 and 0.5.
6. The method according to claim 1, wherein the total NTP concentration is between 4 mM and 24 mM.
7. The method according to claim 1, wherein the Mn^{2+} concentration is at least 3 mM.
8. The method according to claim 1, wherein the Mn^{2+} concentration is at least 3.5 mM.
9. The method according to claim 1, wherein the Mn^{2+} concentration is at least 4 mM.
10. The method according to claim 1, wherein the Mn^{2+} concentration is between 4 mM and 17 mM.
11. The method according to claim 1, wherein the polymerase is a T7 RNA polymerase, a T3 RNA polymerase or an SP6 RNA polymerase.
12. The method according to claim 1, wherein DNA or RNA is used as the nucleic acid that can serve as a template for the polymerase.
13. The method according to claim 1, wherein DNA or RNA is used as the nucleic acid that can serve as a template for the polymerase and this nucleic acid is present in an amount of at least 0.1 picogram or in a concentration of at least 10 femtomolar.
14. The method according to claim 1, wherein one or more of ATP, UTP, CTP and GTP are used as NTPs.
15. The method according to claim 1, wherein also dNTPs can be used.
16. The method according to claim 15, wherein one or more of dATP, dTTP, dCTP and dGTP are used as dNTPs.
17. The method according to claim 15, wherein the NTPs or dNTPs comprise derivatives of NTPs or dNTPs.

18. The method according to claim 1, wherein an amplification rate of at least 1000-fold is achieved.
19. The method according to claim 1, wherein an amplification rate of at least 2000-fold is achieved.
20. A kit for the synthesis of nucleic acids that comprises a polymerase, NTPs and Mn^{2+}, in one container or in several separate containers.
21. The kit according to claim 20, wherein the polymerase is a DNA dependant RNA polymerase that needs a DNA template having a promoter to synthesize RNA.
22. The kit according to claim 20, wherein the polymerase is a T7 RNA polymerase, a T3 RNA polymerase or a SP6 RNA polymerase.
23. The kit according to claim 20, comprising one or more of ATP, UTP, CTP and GTP as NTPs.
24. The kit according to claim 20, further comprising dNTPs.
25. The kit according to claim 24, comprising one or more of dATP, dTTP, dCTP and dGTP as dNTPs.
26. The kit according to claim 24, wherein the NTPs or dNTPs comprise derivatives of NTPs or dNTPs.
27. The kit according to claim 20, further comprising instructions for performing synthesis of nucleic acids.